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# Land policy REVIEW

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UNITED STATES DEPARTMENT OF AGRICULTURE  
BUREAU OF AGRICULTURAL ECONOMICS

# *Editorial Notes*

## and EXPRESSIONS

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# Defense and DECENTRALIZATION

By RALPH H. DANHOF. *The national defense program has reawakened interest in possibilities of effecting a greater decentralization of industry, which many farm leaders have advocated for years. Little was accomplished, but suddenly the matter again became a public issue.*



UNDER THE DEFENSE program the Army, Navy, and Reconstruction Finance Corporation have the power to encourage directly the decentralization of a number of important industries, since Congress has authorized them to finance certain private manufacturing facilities, or build Government-owned plants. Because Army and Navy requirements range from shoes and ships and sealing wax to aircraft, chemicals, and clothing, such a program will affect profoundly, and undoubtedly for a long time, the location of industry.

In periods of peak productive activity, new plants are erected, old ones are modernized, and new machinery is installed. Once substantial investments are made in fixed facilities, factories are relatively immobile. Shifts in industrial location continue to occur in slack years,

but many of them result from closing factories rather than from building new ones or expanding old ones.

At the outset, the problem of locating defense industries might have been approached in two ways: In terms of producing the temporary requirements of the Army and Navy, without considering immediate or ultimate effects of such plants on the national economic structure, or in terms of planning this rapid increase in production so as to enhance economic security as well as military security. The latter position would have raised stubborn problems involving the areas that would benefit most from the temporary economic opportunity of the defense program, and the broad policy regarding the distribution of economic opportunity that should guide Government administrators.

As a matter of fact, thus far only a small part of defense production

has been decentralized. But the desirability of decentralization remains a real issue in any further expansion of defense industry.

### *First Considerations In Industrial Locations*

In deciding the degree to which there should be a decentralization of any further industrial expansion under the national defense program, questions arise as to what distribution of defense industries would improve most the welfare of our rural areas, whether the defense program will be disrupted and delayed if such broad economic requirements of various rural areas are considered, and to what extent the increased production can be used to foster better distribution of economic opportunities throughout the Nation.

Before answering the questions, let me review what has happened thus far. When the defense program was started, Army chiefs and advocates of industrial decentralization agreed as far as avoiding the further development of defense facilities along the Atlantic and Pacific seaboards. The President advocated putting defense plants inland, and the Army issued a map outlining the strategic zones within which defense industries should be located. In general, the Army indicated that the plants should be located west of the Appalachians, considerably east of the Rockies, and from 200 to 500 miles inland from all northern and southern borders.

But it became evident that a second Army requirement could not be met fully if industrial expansion were restricted to strategic military zones. Above all else, the Army

and the Navy had to produce supplies rapidly, inexpensively, and in large quantities. This short-run interest of the Army conflicted to a considerable extent with the long-term aim of locating defense plants at points that could be most easily defended.

### *Economics and Technology*

It can be readily pointed out, of course, that after initial production has been stimulated and immediate war requirements secured, then the Army and Navy could study the problem of developing defense facilities at points least vulnerable to attack or sabotage. But it is a question whether additional defense facilities will be needed after the urgency for fast production ends, especially if there is no break in the present emergency or if the magnitude of the crisis is increased. It may be that the defense program will be curtailed, rather than extended. It is also a question, if that happens, whether the average American citizen would be willing to undergo the cost of moving present defense facilities inland. It may be, in short, that the magnitude of the present emergency has virtually dictated the location of defense facilities, and for the large part interest in the decentralization of defense industries may have been academic.

Economic and technological considerations also determine the Army's selection of industrial sites. In general, the Army concluded that most of the defense enterprises had to be located within commuting distance of large metropolitan centers. Some of the considerations were:

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# Change

*All things change. It is wise always to prepare for the changes, no less in agriculture than in other fields.*

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## —TECHNOLOGY ON THE FARM

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(1) During the first months of the defense program, the Army assumed that the greater part of the war requirements produced would be used along the Atlantic coast, and that plants should be located with reference to that market. In an effort to avoid long freight hauls and a number of loadings and unloadings, the Army located plants on main transportation lines relatively near the Atlantic seaboard.

(2) The Army, after the experience of the World War and later, had arrived at fairly definite conclusions regarding the most efficient sizes of plants. Only within commuting range of rather large cities, where a large and diversified labor supply was available, it was believed, could the operating company of a large defense plant hope to be able to fill all of its needs.

(3) The types of industries that the Army and Navy were attempting to expand had gradually dwindled during the past two decades to the point where they had become adjusted to peacetime requirements. In these industries there were practically no partly used or idle plants, and no large body of partly trained or underemployed

laborers who could readily be drawn back into the industry as it expanded.

These industries not only lacked unused capacity, but within less than a year they were faced with the task of producing 2 or 3 times or sometimes 20 or 30 times more than they had in any year of the past decade. The scarcity of managers and technicians immediately became a problem. Frequently the management of the present aircraft companies have been responsible in the end for the selection of locations for plant expansions. In most cases the management stated bluntly that expansion could be undertaken only as an adjunct to existing facilities.

(4) Another factor arose because the raw material and semi-processed requirements of many defense plants set rigid geographical limits within which defense plants had to be located. The production of armor plate, guns, and even shells, for example, calls for various metals. Few areas produce these requirements and, except Birmingham, are located in the Northeast.

### *Nearness to Basic Raw Materials*

Since such metals often are the most bulky item involved in the production of these military supplies, and since the Army felt that the Atlantic seaboard would be the ultimate market of defense requirements, it was considered unwise to ship these metals to the interior and then bear the cost of shipping them back to the coast. From the start, therefore, it became evident that Pennsylvania, Ohio, Michigan, and Illinois would be the centers of de-

fense expansion involving large metal supplies.

Only the munitions industry offered the practical possibility of immediate and relative widespread decentralization. Almost all types of plants in the munitions group employed much unskilled labor and utilized raw materials available at a number of alternative sites.

The earlier defense projects, even in the ammunition field, were located in Northeastern States. Those sites were chosen for different reasons in each case: Lack of knowledge as to the suitability of Kansas, Illinois, or other coals from areas outside the West Virginia-Pennsylvania coal fields for producing ammonia; lack of certainty about the practicability of new outlets for the spent acid of TNT plants, used by steel mills; the desirability of locating near the Northeastern steel centers where metal components used in small-arms plants are made. Lately, projects have been located in Missouri and Iowa. Even more recently, sites west of Missouri have been considered. As the possibilities for location of ammunition plants have been canvassed more thoroughly, and as the geographical distribution of the use of these munitions has been more clearly defined, the likelihood of obtaining a wider scattering of the plants in this industry has improved.

### *Social Objectives of the Program*

Many administrators are aware of the economic and social maladjustments that resulted from the heavy concentration of war production during the World War. Great interest has been displayed in the

objective of preventing the migration of many laborers from one industrial area to another, or from a rural district to cities. Defense employment is temporary, and after the defense program is over, these people may be left stranded in places where they cannot earn a living.

On the other hand, it was not recognized clearly that total defense would require the greatest possible use of the facilities of existing communities. Too little effort was made, wherever possible, to avoid the costly erection of new community facilities if their use was to be only temporary, and if they duplicated those existing elsewhere which are only partly utilized at present.

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## *Salt*

*Agriculture is the parent of physical and moral health to the State—it is the salt which preserves from moral corruption. Not only are her labors useful in administering to our wants, and in dispensing the blessing of abundance to others, but she is constantly exercising a salutary influence upon the moral and physical health of the State, and in perpetuating the republican habits and good order of society.*

—JESSE BUEL

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It is a question, furthermore, whether even those defense plants which have been placed in rural areas will prevent continued migration of labor and the wasteful duplication of existing facilities without further careful planning.

### *Dangers of a Boom*

A case in point is the smokeless powder and bag-loading plants to be located near Radford and Pulaski, Va. Plants of that type are not entirely favorable from the point of view of the people living there.

Almost all are large and will inevitably cause serious maladjustments in the communities receiving them. Intelligent planning is needed if the farmers in places like Radford are not to be harmed in the long run by temporary defense employment. The development at Radford calls for the employment of at least 3,500 persons during the construction period, and from 6,000 to 8,000 in the plants after operation is started. Plants of that size will support a city of 20,000 to 25,000 population. Radford, however, had a population of only 6,227 in 1930, and Pulaski had 7,168. A boom is unavoidable.

Many new houses will be needed. Many farmers will be tempted to settle in Pulaski, Christianburg, or Radford. If these farmers should move to town, after the defense program is completed they may be no better off than they would have been had they moved to a large, more remotely located city and been left stranded there.

An even more critical situation may develop in the case of Charlestown, Ind. Two plants to be lo-

cated there will employ at least 10,000 men; the town itself had a population of only 850 in 1930.

Temporary defense employment, however, can make a permanent contribution to the economic welfare of many rural communities. If a farmer, his son, his daughter, or even his wife could find temporary employment in a defense plant, and if part of the earnings of such a member of the family were diverted to the farm and were used for permanent farm improvements, that farmer would have developed sound means for maintaining a higher standard of living.

New housing facilities, for example, to be provided under the defense program, if constructed entirely within towns, might have no value whatever if the plant ceases operation. If, however, some of these houses are placed on farms within commuting distance of the plant, the farmers owning the land on which such houses have been erected can abandon their present wholly inadequate homes and acquire defense houses that had been used temporarily by industrial workers. The planning of these various aspects of defense projects, however, must be of the highest order if serious blunders are to be avoided.

### *Integrating Farms and Industries*

If the social objectives of decentralization are to be kept in mind, it is necessary to be concerned with the manner in which the farmer participates in the national defense industrial program as well as in the problem of fostering the location of defense facilities in rural areas.

In fact, industrial employment and agricultural opportunities in many areas can be integrated, as far as many farmers are concerned, even though the defense plant is located in an urban district.

The most beneficial use of temporary industrial employment by farmers remains a task of education. Although the scattering of defense industries through various sections may help to balance the general economic development of the various sections, the effect of such a program on the lives of individual farmers and their families will be determined by the degree to which local farmers can plan the economic and social use that they make of the economic opportunities at their disposal.

It is clear, therefore, that industrial expansion under the defense program so far has been administered largely in terms of immediate objectives. Only seldom and indirectly has the allotment of defense production been made in terms of broader economic aims.

Although this seems to be true thus far, it is well to raise a number of fundamental questions before further industrial expansion is financed by the Federal Government.

### *Defense and Exports*

There has been almost a complete collapse of foreign markets for some of our major farm products, so that in certain areas the lack of economic opportunity will remain serious throughout the war emergency. This lack may coincide with the period during which the industrial production of military requirements will be high.

Certain agricultural areas must eventually change the character of their production. The hope of the South is to shift from a predominantly cotton and tobacco economy to one more diversified, and in the Great Plains area a shift from wheat may have to be made.

Increased demands for farm goods resulting from mounting industrial activity will not greatly benefit those sections if such industrial activity is concentrated in a few relatively prosperous agricultural areas. The most likely result will be that these needs will be met by a more intensive production of vegetables, poultry, dairy, fruit, and similar foods in restricted areas.

Furthermore, unemployed and underemployed rural people seriously affected by the loss of foreign markets will be unable to get temporary employment in defense plants unless they move to Northern States. Such migration would be desirable if settlement in such urban centers would be permanent, and if the economic future of those centers were better than that from which they were moved. But there are many reasons for believing that that may not be the case.

A defense plant in an area that must sometime change the character of its agricultural production would help stimulate such a change by furnishing a market for a more diversified range of products. If the primary requirement of a rural district is temporary industrial employment until foreign markets have been restored, at least in part, a defense plant is an admirable vehicle for accomplishing just that.

From a broad national point of view, therefore, it is unfortunate



that after due recognition has been given to all technological and economic considerations, attention might not also be given to the basic economic needs of various rural areas. Very little data, however, are available regarding the industrial potentialities of country areas; practically all the research of the Department of Agriculture regarding the relation of industry and agriculture has dealt almost solely with the character and success of part-time farming.

### *A Basic Question*

This problem must not be considered the basic question as to what distribution of various types of economic activity is fundamental for the welfare of various sections of the country and for the Nation as a whole. The national defense emer-

gency has focussed attention once again on that problem.

Such a recommendation is not made in complete disregard of the need for a considerable increase in the industrial activity of large cities. The urban unemployment problem must be solved. One must remember, however, that the greater part of the defense production will be in cities, that existing industrial facilities and the labor supply of cities normally are more than adequate, and that existing urban facilities and labor supplies have not been utilized fully for many years. No economic end is served, therefore, in increasing either the facilities or the labor supply of those cities by an obviously temporary program of industrial expansion.

Without additional new plants in cities, the production stimulated by the defense program will utilize largely all the facilities that cities would normally support in ordinary years. It would appear economically and socially wasteful, therefore, to expand them.

Every effort should be made seriously to canvass the possibility of scattering as many new plant facilities as possible in the South Atlantic, South Central, and Great Plains States.

At the outset one should recognize that a sound policy of national defense must rest first on the fundamental principle that a democracy must give its citizens an economic order that protects and enhances the welfare of all sections and that does not deliberately perpetuate any injustices. It may be that, in the end, a month or two of delay in the production of weapons, resulting from a tangible increase in the

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## *Interest*

*I presume I am not expected to employ the time assigned me in the mere flattery of the farmers as a class. But farmers, being the most numerous class, it follows that their interest is the largest interest. It also follows that that interest is most worthy of all to be cherished and cultivated—that if there be inevitable conflict between that interest and any other, that other should yield.*

—ABRAHAM LINCOLN

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economic and social welfare of a sizeable number of citizens, may actually result in greater, rather than less, defense.

One must also remember that—while it may be easier to get factories into actual production more quickly in or about our large urban centers than in more outlying rural areas—a too rapid increase in production may bring immediate delays of every type.

It is possible that in the end as much delay may attend the present program as one that calls for decentralization, because of the congestion of transportation facilities and because the labor reserves of some important cities will soon be absorbed with the result that time must be consumed in attempting to recruit labor from other areas.

In view of this fact it is a question whether our present policy is a wise one. It is true, as pointed out earlier, that the need for the immediate production of defense materials is overwhelmingly important. It must be remembered, however, that in meeting these present requirements during a limited emergency we are using those facilities which can be most rapidly developed.

Our Nation, moreover, is not taking a single step to insure that if the magnitude of our emergency increases we can very readily boost our production even further. It may be that the wise policy, as long as we have peace, is not only to utilize some of these facilities that can readily be converted to the production of war materials, but also to develop facilities at points where it would take more time to bring them into production. If that pol-

icy were followed then the Nation would have production reserves in an acute crisis that the country could bring into immediate use.

### *If the Need Increases*

If the present emergency does not become more acute little use will be made of the military supplies produced by existing factories, but if the magnitude of the emergency increases the industrial capacity of the Nation to produce military supplies must be increased greatly and as rapidly as possible.

Although new defense plants may be few in number, if properly located they will solve existing difficulties, while, if misplaced, they may create new problems without solving extant problems.

It is true that the number of defense plants which may be erected under an expanded defense program may not number more than two or three score, but if these plants are strategically located, each of them can go a long way toward alleviating directly or indirectly the economic distress of four, five, six, or even eight counties.

The defense program cannot solve even temporarily the problem faced by the farmers of many areas of the Nation, but the program has a contribution to make, and it would be a mistake to overlook the opportunity of doing whatever can be done to further their material welfare.

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*Agriculture is the most healthful, the most useful, and the most honorable employment of man.*

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—GEORGE WASHINGTON

# RESURGENCE

## IN RURAL NOVA SCOTIA

By MARTIN E. SCHIRBER, O. S. B. *Here is a heartening account of a movement that is bringing new life and hope to impoverished persons in eastern Nova Scotia, a story of cooperation that "could well be studied by farmers of any region or any age."*



THE COOPERATIVE and adult education movement sponsored and directed by the little diocesan college of St. Francis Xavier in Antigonish, Nova Scotia, has attracted wide attention as a bold and vigorous attempt to awaken a people to the possibilities of helping themselves by making the most out of their local resources—meager though they be. During the past 10 years, the priests of the diocese of Antigonish, aided by many self-sacrificing laymen, have built up a systematic program of social action that is now widely known as the Antigonish Movement. While this movement has brought a new lease on life for people of every occupation—fishermen, farmers, miners, steelworkers, and their families—only its implications in regard to agriculture can be considered here.

Agriculture in Nova Scotia is undeniably backward. According to the census of 1931, only one-third of the land area is in farms, and only one-fifth of the farm lands represent improved crop or pasture lands. The farms are small, with

an improved acreage per farm averaging only 21.4 acres.

The condition of agriculture in this maritime region is clear evidence of the difficulties experienced in making the adjustments necessitated by the opening of the West and the technological changes of the past 75 years. Further evidences are to be found in the constantly declining rural and farm population, as farm youth migrated to the rising industrial centers, and in the almost constant decline in the number of farms and acreage per farm under cultivation.

The competition from the West in the large staple agricultural products was met in part by a shift to dairying and specialized farm production to supply the rising urban markets, but the nature of the agricultural resources has militated against a successful readjustment to the new conditions. According to almost every index of agricultural development, Nova Scotia suffers by comparison with other regions.

If the agriculture of Nova Scotia as a whole is backward, that of

eastern Nova Scotia—where the Antigonish Movement has reached its highest development—is still further from the ideal. The farmers in the eastern counties were overwhelmed by the competition from the west, and failed to adapt their production to the specialized demand of the rising industrial districts nearby. The inefficiency of production was carried over into the marketing of the dribble production of the many small farms, and the only information reaching back to the individual farmers was that wholesalers preferred to pay higher prices for graded products shipped in from reliable sources farther west.

Improvements were needed on two fronts. It was useless for the individual farmers to improve their methods of production unless some system was developed whereby their small outputs could be assembled, graded, and marketed in large lots through established channels which would return a premium for quality.

### *First, A Desire to Help Oneself*

It was at this point that the program of adult education and cooperation made possible the application of mass intelligence to what seemed to be an insoluble problem. Although the Antigonish Movement has various phases, its general procedure consists first of all in arousing in a community the desire to help itself. This energy is then directed toward the study of some community problem. For this purpose study clubs are formed among the members of the community, and the people are instructed in study-club procedure.

While the newly organized clubs could take up the study of any community problem, it has been found most practical to begin with the credit union. This gives the people a training in business procedure and self-confidence in handling their own affairs. After that they are able and willing to attack any problem facing the community. The almost certain success of the credit union makes them eager to undertake a second project, and while this might be a cooperative sawmill, lobster factory, fish plant, or marketing cooperative, the normal procedure is to begin studying and saving capital for the organization of a cooperative store.

The community will spend 2 or 3 years in intensive study and discussion, but when the leaders finally give the go-ahead signal for the organization of the store, it will have become so imbedded in the thinking and habits of the community that the people consider it their own and feel free to use it as an instrument to be turned in any direction for the solution of the problems inherent in Nova Scotia agriculture. The store naturally performs the ordinary functions of retailing consumers' goods and farm supplies, and it serves as a center for the organization of various projects designed to step up the efficiency of production and marketing.

### *Cooperative Marketing*

Since farming in eastern Nova Scotia consists of a complex of small enterprises ranging from fox farming to the production of pulpwood, and since farmers must have an inducement to put forth the

necessary effort to become proficient in several different pursuits, the co-operative stores in the rural areas generally undertake to develop an efficient program for marketing the driblet production of their members and to obtain for them definite and certain payment for quality.

Working in conjunction with the central office of the overhead organization of which they are members, the stores have developed a highly organized system of assembling, grading, and marketing lambs, hogs, poultry, eggs, marine products, and small fruits and vegetables.

These products are assembled at the local stores on stated days determined by the state of the market, as learned from the central office, and are then transported to the urban market on the return haul of the trucks which deliver consumers' goods and farm supplies to the rural stores.

In the city, the products are sold through the central office, which acts as the sole bargaining agent, selling by grade in large lots to the highest bidder. Some of the products are marketed through the consumers' cooperative wholesale, of which the rural cooperatives are members, to the urban cooperatives in the industrial area. This highly unique arrangement represents a bold experiment in the reconciling of consumer-producer interests, and is possible only in virtue of the intensive educational programs con-

ducted by representatives of the college in both town and country.

### *A Premium for Quality*

The assurance of a premium for quality made possible by this marketing program gives the individual producers an incentive to study improved methods of production and sends them in quest of literature and information concerning the various enterprises which make up the Nova Scotia farm. Here again the most powerful instrument of the Antigonish Movement—the study club—is called into play. Now that quality and uniformity pay, farmers will devote their clubs to the study of methods of production and marketing. Thus, some communities have studied animal husbandry, pasture improvement, poultry raising, rotation and seed selection, and the like. Even when the study club is not extensively used for these purposes, the mere fact of membership in the co-operative store contributes significantly to the technical advancement of farming, since the managers—typically alert young men—assist the farmers in obtaining literature dealing with their specific problems, advise them as to the state of the market, and arrange meetings at which representatives of the Provincial department of agriculture can give instructions in scientific agriculture.

Moreover, as reading, discussion, and contact with experts broaden the horizon of the members and suggest practical procedures for improving methods of production, they use their cooperative stores for carrying out these projects. The stores sometimes purchase purebred sires, install seed-cleaning equip-

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*My greatest opportunity is to be thought the first farmer of America.*

—GEORGE WASHINGTON

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ment, and establish incubators for the use of the members.

A more ambitious educational project sponsored by some of the rural cooperative stores is the short course lasting from 2 to 10 days. This consists of lectures on methods of farming and demonstrations given by Government experts and others in the community hall. The course also serves as the initial impetus for the continued study and discussion of farm problems in the study clubs, a practice which Government field men and county agents are quick to encourage. The result is a coordinated program of rural rehabilitation, with the co-operatives and study clubs supplying the inspiration and the economic organization that make it profitable for the farmers to take advantage of the technical education offered by the department of agriculture.

In this program of adult education, the place of the woman is not forgotten, since the Antigonish Movement is striving not only to increase cash income, but more emphatically to build a rich and satisfying rural culture having many values that money cannot buy. Women therefore are given a prominent part in the various educational activities. They frequently form their own clubs to study handicrafts, like weaving, glove making, and tile and wood decorating, as well as dietetics and household management. A special section of the short course is reserved for them, and, like the men, they continue the study of these arts in their study clubs.

The cooperative stores in the rural areas have been so thoroughly

integrated into the life of the community that, where conditions are favorable, they also serve as the agency for carrying out the more intricate and large-scale operation of marketing pulpwood to distant markets. Much of the average farm in eastern Nova Scotia consists of cutover woodlands, and farmers (and fishermen) frequently derive a supplementary income in slack seasons by gleaning forest products from their wood lots. They discovered, however, that the prevailing system of marketing pulpwood in small lots through private buyers yielded returns below mill prices, and several communities decided that the intelligent exploitation of this resource required more organization and attention than the isolated producers were able to give it. Accordingly, these communities turned to the cooperative stores for a solution to their problem, and soon a detailed plan of production and marketing was worked out.

Through the Provincial department of agriculture, the cooperatives of several communities contract for the delivery and loading of a cargo of pulpwood for shipment to a foreign market. Each of the participating cooperatives receives its allotment in the shipment, depending upon the acreage of woodland controlled by its members. Each cooperative then assigns to each of its members a given proportion of its allotment, determined by the holdings of the individual member. The member, in turn, contracts to deliver at the shore the number of cords allotted to him, and to assist in booming the sticks out to the steamer and loading

them, as the steamer moves from port to port.

Of significance with respect to conservation is the fact that each cooperative strictly controls the cutting practices of its members, and strives to inculcate correct principles of forest management. It seeks to prevent overcutting and depletion of forest resources, and exerts a rigid inspection at time of shipment, in order to maintain the reputation for high quality that the cooperatives have won. Since the prices realized by the cooperatives have been almost double that paid by private dealers who buy from the individual farmers, the latter are restrained from overcutting and are willing to abide by the rules laid down by the directors of the cooperatives regarding forest management. A similar procedure is followed, but with less attention to silviculture, in the production and marketing of other forest products, such as pit props and sawlogs, while the development of cooperative sawmills in several communities has made possible the more intensive use of forest resources and the employment of idle labor.

As in a number of forest products cooperatives in the United States—though for a different rea-

son—the cooperatives in rural Nova Scotia are in a position to insist upon the adoption of correct silvicultural practices leading eventually to sustained yield. They serve as centers for the dissemination of information on forest management, and present compact groups easily reached by Government foresters who are eager to cooperate with these communities in the intelligent exploitation of their forest resources. Finally, the standard instrument of adult education is called into play, and the members of the cooperatives take up the study of forest management in their study clubs and thresh out the complex problems—social, economic, and technological—which stand in the way of any attempt to harvest forest products as a perennial cash crop.

The Antigonish Movement is of deep significance for modern agriculture. In view of the serious problems facing various agricultural regions in the United States, it might not be too much to say that the salvation of agriculture as a way of life and the preservation and enrichment of our rural culture lie in the adoption of some program of study and action similar to that described here.

The movement is doing for Nova Scotia what George Russell (AE) and Horace Plunkett hoped cooperation would do for rural Ireland, and the method it has developed could well be studied by farmers of any region or any age. It is unquestionably a program more in keeping with human dignity and the ideals of American freedom than various alternatives now on the horizon.

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*My name will be remembered  
with more pleasure and grati-  
tude by those who know me,  
for my devotion to agriculture  
and mechanic arts, than all my  
long life spent in politics.*

—HENRY CLAY

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# Through Depression

## ON A PLAINS FARM

By T. S. THORFINNSEN. *A case history is here presented to show how a South Dakota farmer survived the hazards of climate and variations of prices and production, and to emphasize the importance of managerial problems engendered by extreme variability of Great Plains farming.*



THE ATTENTION of the Nation has been focused on Great Plains agriculture in recent years.

One result is the general realization of the hazards encountered by the Great Plains farmer.

The extreme variability of climatic conditions is the principal cause underlying many of the hazards. Fluctuations in prices, particularly in the prices of wheat, add further complications. As a result of great changes in yields and prices, the productivity of Great Plains farms, both physical and economic, differs widely from year to year. Since the causes of these conditions are beyond present known means of control, the variability cannot be removed, and the farmer must learn to live with it somehow.

Differences in income make it difficult to meet fixed costs like taxes and interest. In years when yields are low, the income is insufficient to provide the family with the necessities. When the income is above average, the surplus is often spent currently, instead of being set aside as a reserve for emergencies. Low-

income farm families in this region often are solvent only when income is above the average. These families are not in a position to accumulate reserves, and during periods of low yields and low prices they become public charges in one way or another. Instability of income makes systematic planning difficult. In extreme cases it may result in liquidation of farms that are solvent from the long-time standpoint.

While obviously the farm manager must attempt to adjust to future fluctuations or variations, rather than to past fluctuations, there may nevertheless be considerable guidance value in an examination of income variability in the past. From this we should glean a better understanding of the farmer's problem, the kind of erratic changes that he encounters, and their apparent effect upon his farm and family. Many of the situations experienced in the past probably will have approximate counterparts in the future.

To illustrate the variability of income on a farm in the Northern Great Plains, an actual farm of 960





acres was selected in Ziebach County, in western South Dakota. It was one of a group of the more successful farms that "survived" the drought. The farm plant was valued at \$4,000 in 1938. The operator was out of debt. He owned 640 acres and rented 320 acres. His family of 2 daughters and 5 sons was approaching maturity when the drought began in 1931. By 1938 one of the girls was married and the other was teaching school. Two of the boys had gone to seek their fortunes elsewhere. One boy was in a CCC camp. Another had a road-dragging job as a side line, and the youngest boy was still at home helping with the farm work.

There were 673 acres in permanent pasture on this farm; 287 acres were cultivated. Wheat, the major crop, was planted on 60 to 70 percent of the cultivated acreage. Eleven cows were milked. Poultry

and hogs were of minor importance. Horses were used for power.

From 1923-39 the yield of wheat in Ziebach County varied from nothing to 17 bushels an acre. During 5 years of this period the yield was 10 bushels or more, and it was 3 bushels or less per acre for 5 years. The average yield was approximately 7 bushels. The variation in yield from this average was moderate in the years 1923, 1924, and 1925, again in 1934 and 1935. During the remaining 11 years the yield fluctuations were violent.

The average farm price of wheat in South Dakota during the period was \$0.94 a bushel. The lowest price was \$0.31 a bushel in 1932, and the highest was \$1.41 in 1925. When yields were above average in 1924, 1925, 1927, and 1928, the price of wheat was \$1 or more a bushel. In 1931, 1933, 1934, 1935, and 1938, when yields were low, the price was below \$0.90 a bushel.

Thus it appears that the high prices and high yields were associated in the first instance, and low prices and low yields in the second. This tended to make income fluctuations wider than fluctuations in yield and price.

The farm price of beef cattle in South Dakota varied between \$3.60 a hundredweight in 1933 and \$11.30 in 1928, the average being \$6.90. Butterfat sold for 45 cents a pound in 1928, but was only 17 cents a pound in 1932.

The calculated income from this farm varied between \$3,574 in 1928 and \$400 loss in 1936. This is a range of nearly \$4,000 from low to high. The average income for the period was \$922. During the 16-year period the income was below

average for 12 years (1923, 1926, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938), and above average for 4 years (1924, 1925, 1927, 1928). In 1931, 1933, 1934, 1936, and 1938, the income was insufficient to meet farm expenses, including allowances for depreciation and interest on investment in the farm plant. (Income in this case means the amount available to pay for the labor and management of the farmer and his family after all farm expenses and interest—at 5 percent—on the total investment have been deducted from the gross farm income.)

These fluctuations apparently were due largely to the variations in yields and the price of wheat. Under these circumstances planning the farm business for the future involved considerable difficulty. Reserves of capital or feed, or both, could conceivably be provided to tide the farm over occasional lean years before 1931. It would be extremely difficult, however, to provide sufficient reserves to carry the farm family over the 8-year period of low income from 1931 to 1938. Obviously, some drastic adjustments in the business were required; even

the most flexible kind of farming system could not be expected to survive such a drought period without considerable change.

### *Adjustments Required to Meet Emergencies*

If it is assumed that the surplus income from the good years could have been retained as a reserve for the years of low income, the farm I am talking about would have had sufficient funds to support the family throughout the entire period. If, however, it is assumed that the high incomes between 1923 and 1929 were spent currently rather than retained as a reserve, then the farm family would have faced considerable difficulty from 1931 to 1938.

Assuming that approximately \$400 would be required to provide the necessities of life for the family each year, the required financial adjustments in the farm business would be approximately those shown in the table. In making the calculations, it was assumed that when the income was low the farmer would use interest due him on his investment for support of the family, that he would not buy new machinery,

TABLE 1.—*Income for labor and management of the farmer and family, 960-acre farm in Ziebach County, S. Dak., 1923-38*

Year	Income	Year	Income
1923.....	\$622	1932.....	\$440
1924.....	1,845	1933.....	—108
1925.....	2,378	1934.....	—108
1926.....	286	1935.....	684
1927.....	3,173	1936.....	—400
1928.....	3,574	1937.....	718
1929.....	833	1938.....	—8
1930.....	840		
1931.....	—12	Average.....	922

nor set aside a reserve in lieu of depreciation of equipment, and that when hard-pressed he would allow taxes to become delinquent, and as a last resort obtain a loan. When income was above the \$400 level it was assumed that the loans would be liquidated first and delinquent taxes second.

For example, in 1931 when the income was—\$12, it was assumed that the farmer would use for living expenses the \$208 accruing to him as interest on his own capital; also that he would not set aside the annual depreciation reserve of \$62; and that he would be unable to pay the greater part of his taxes (\$208 plus \$62 plus \$142 = \$412).

#### *Four Years of Tax Delinquency*

Likewise, in 1932, when the income was \$440 there was a balance of \$40 above living costs. The assumption was that he would then pay the current year's taxes plus the delinquent taxes of 1931, that he would carry over \$168 into 1933, that the amount spent for family living each year was no more and no less than \$400, and that interest on owned capital would not be reinvested in the farm business during the distressed period (1931 to 1938).

Apparently on this farm it was possible to provide \$400 annually for family living for the period 1931 to 1938, by living partly upon the income computed as interest due to the farmer on his own capital, and by encroaching slightly upon the reserve which should have been set aside to cover depreciation on equipment.

At the end of the period the depreciation reserve account was "short" by \$434, and \$1,560 com-

puted as earned by owned capital (at 5 percent) had been consumed by the family.

On an accounting basis, the farmer had a deficit of \$1,994 in 1938 as a result of his farm operations since 1931. During the period his taxes were delinquent wholly or in part in 1931, 1933, 1934, and 1936, and he was forced to borrow money in 1934 and 1936. But the emergency loans and the delinquent taxes were paid up by 1938.

If it is assumed that \$500 is the minimum amount required annually to support this family, it would have been necessary to use, for family living, all the income computed as interest on owned capital, and also the depreciation funds. In addition, delinquent taxes would have accumulated to a net total of \$454 and unpaid loans would have amounted to \$180 by the end of the period. The total deficit in this case would have been \$2,794 on an accounting basis.

#### *\$680 in AAA Payments*

Actually this farmer received Agricultural Adjustment Administration payments in the amount of \$680, between 1931 and 1938. If this amount is deducted from the deficit of \$1,994, there remains a deficit of \$1,314. On this basis no emergency loans would have been necessary during the period. The delinquent taxes would all have been paid up in 1938 and the depreciation account would not have been disturbed.

Besides the financial adjustments described, some changes were also required in farm organization. For example, the wheat acreage was reduced from 217 acres to 150, due

to shortage of seed. Livestock numbers were likewise reduced because of feed shortage. Early in the drought period the young stock was sold; in 1936 it was necessary to reduce the number of milk cows from 11 to 9. By 1938, 50 acres were idle. Nine cows were milked and there was only the current year's calf crop on hand.

It must be recognized, of course, that the adjustments in finances and in organization are based upon many assumptions. Changes in these assumptions would alter the conclusions. For example, if the farmer whose farm was used in the illustration had had a large indebtedness on his farm, he would not have had the "cushion" of \$208 per year of income computed as inter-

est on owned capital to fall back on. If he had been more dependent upon cash crops with less emphasis upon livestock (milk cows), his income situation would probably have been worse.

Account should also be taken of the number of persons in the family, and the ages of each, in determining the income required for family subsistence. One would not expect to find exactly the same situation on any two farms, and the difference in the situation would have a bearing upon the kinds of adjustments required. The possibility that some members of the family may "shift for themselves" outside of the farm business, must be considered if the family is

TABLE 2.—*Financial adjustments required in order to provide \$400 annually for family living, 960-acre farm, Ziebach County, S. Dak., 1931-38<sup>1</sup>*

Year	Income for labor and management	Expense items delayed			Loans required	Obligations liquidated	
		Interest on farmer's equity	Depreciation on machinery and buildings	Taxes		Loans	Taxes
1931.....	—\$12	\$208	\$62	\$142	0	.....	.....
1932.....	<sup>2</sup> 440	208	62	0	0	.....	\$142
1933.....	—108	208	62	70	0	.....	.....
1934.....	—108	208	62	150	\$88	.....	.....
1935.....	<sup>3</sup> 684	208	62	0	0	\$88	220
1936.....	—400	208	62	<sup>4</sup> 100	184	.....	.....
1937.....	<sup>5</sup> 718	208	62	0	0	184	100
1938.....	—8	104	0	0	0	.....	.....
Total....	1, 206	1, 560	434	462	272	272	462

<sup>1</sup> Assuming no reserves on hand in 1930.

<sup>2</sup> Expenses delayed in 1932 left \$168 to carry over into 1933.

<sup>3</sup> Expenses delayed in 1935 left \$246 to carry over into 1936.

<sup>4</sup> Taxes were reduced about one-third in 1936.

<sup>5</sup> Expenses delayed 1937 left \$304 to carry over into 1938.

approaching maturity when the drought cycle begins, as was the case on this farm.

An understanding of the great variety of assumptions that might reasonably be applied to individual cases forces one to realize how many different kinds of adjustments might be required in the many different situations faced by individual farm families. It seems worth while to explore the performance records of a number of farm operators, who have managed to survive the drought. In cases where records are available, it would be possible to trace the annual income, the changes in organization, and the adjustments made by the operator to

meet practical problems as they appeared. It should be possible to reconstruct the family situation and to follow the family through the stages of its development from infancy to maturity. The effect of the variability in agricultural income upon the development of the family should be discernible, as well as the flexibility of the family in adjusting itself to the changing farm situation.

All of this would have an important bearing upon the problem involved in making a living for a farm family in the Great Plains. It seems reasonable to suppose that the survivors of drought and depression have learned something about the principles involved in survival.

TABLE 3.—*Financial adjustments required in order to provide \$400 annually for family living when AAA payments are included in the income, 960-acre farm, Ziebach County, S. Dak., 1931-38*<sup>1</sup>

Year	Income for labor and management	Income from AAA payments	Expense items delayed			Obligations liquidated—taxes	Depreciation reserves
			Interest in farmer's equity	Depreciation on machinery and buildings	Taxes		
1931.....	—\$12	0	\$208	\$62	\$142	.....	.....
1932.....	<sup>2</sup> 440	0	208	62	0	\$142	.....
1933.....	—108	0	208	62	70	.....	.....
1934.....	—108	\$115	208	62	123	.....	.....
1935.....	<sup>3</sup> 684	62	123	0	0	193	.....
1936.....	—400	254	208	62	<sup>4</sup> 0	.....	.....
1937.....	<sup>5</sup> 718	249	151	0	0	.....	.....
1938.....	—8	( <sup>6</sup> )	0	0	0	.....	\$310
Total...	1,206	680	1,314	310	335	335	310

<sup>1</sup> Assuming no reserves on hand in 1930.

<sup>2</sup> Expenses delayed in 1932 left \$168 to carry over into 1933.

<sup>3</sup> Expenses delayed in 1935 left \$276 to carry over into 1936.

<sup>4</sup> Taxes were reduced about one-third in 1936.

<sup>5</sup> Expenses delayed in 1937 left \$718 to carry over into 1938.

<sup>6</sup> Data not available.

# How Russia Reduces RISKS OF FARMING

By V. KATKOFF. *The Soviet Union uses insurance to cover many agricultural hazards and to encourage peasants to produce needed crops. One result is strict supervision of farming—"the peasant is becoming more a farm employee than a traditional small-scale farmer."*



UNCERTAINTIES in agriculture are of three types: Risks from natural factors like fire, wind, rain, other weather forces, earthquake, disease, or insects; human risks through carelessness, indifference, or dishonesty; and marketing risks, such as changes in costs, selling prices, and sales volume.

In collective farming human and marketing risks are controlled by the police power and governmental price fixing policy. Offenders are punished by law. The peasant knows that, whatever the harvest, the State price for a current year will be unchanged, and that for the next year it will be made known before or simultaneously with the publication of the plan for the following year. Thus, at least in theory, business risk is greatly reduced. To stabilize further agricultural production, the Soviet Union has an insurance program against most of the unavoidable losses in crops, livestock, and farm real property.

The Soviet insurance system is intended to cover losses of livestock, crops, and property, and to encourage initiative of the collective farms

in boosting production and conserving collective property. Thus, to some extent, the present Russian crop insurance may be regarded as a form of subsidy to the peasantry to encourage them to produce needed crops that the individual peasant or collective farm considers unprofitable.

The first decree on compulsory insurance was adopted in 1934, but altered economic conditions led to the passing of a new decree in 1940.

Before the decree of 1940 there was voluntary and compulsory insurance. Voluntary insurance up to the full value of the object was permitted, at rates equal to those for compulsory insurance. Compulsory insurance, applied in almost all insurable cases of loss, did not cover the full value of the insured object. Again, the rates were high and the sums paid out were too low—50 rubles per hectare in grain, 145 rubles for a horse, 40 rubles for a sheep, and 60 rubles for a pig. (One ruble is 26 cents, one hectare is 2.48 acres.)

In 1938, State compulsory insurance covered 123,700,000 hectares of crop plantings and 90,000,000 head

of large livestock, with a total value of 72,000,000,000 rubles. At the beginning of 1940, collective farms had voluntary insurance on 35,000,000 hectares of crops and on 22,000,000 head of cattle. In the last few years hundreds of millions of rubles have been paid out to cover insurance losses. In 1939 alone, 1,300,000,000 rubles were paid out.

The decree on compulsory insurance passed April 4, 1940, by the Supreme Council of the U. S. S. R. is similar to that of 1934, but changed the premium rates. For crops like cotton and tobacco, the rates were raised, but for buildings, cattle, sheep, and goats they were lowered considerably. The Soviet authorities hoped the new measure would stimulate the collective farms to take precautions against fire, by reducing premiums in certain cases by half.

### *A Wide Range of Insured Goods*

Under the new decree, collective farms must insure buildings, equipment, vehicles, processed goods, and raw materials; plantings of farm crops, nurseries, berry patches, and vineyards; large-horned cattle, goats, hogs 6 months or older, sheep, horses, camels, asses, mules, reindeer 1 year or older, pedigreed young horses, camels, and fishing boats.

Noncollective peasants must insure buildings, large-horned cattle 6 months or older, horses, camels, asses, mules, sheep and goats 1 year or older, hogs 9 months or older, and field crops.

Insurance is paid for damage to buildings, inventory, equipment, vehicles, processed goods, and raw materials from fire, lightning, explosion, flood, earthquake, storm,

hurricane, blizzard, hail, and landslides.

Field, truck, and nursery crops are insured against hail, blizzard, storm, fire at roots, freezing, and floods. Fiber and oil-seed crops and various medicinal plants are insured against drought and damage from all the above causes. Livestock is insured against death from disease, old age, or accident.

Fishing boats are insured against damage by fire, lightning, striking reefs, accidents in storms and fog, and explosion of motors or boilers.

This compulsory property insurance is applicable throughout the country. Marine insurance applies on all Russian seas and 10 lakes, and may be extended to other lakes by the proper authorities.

Buildings and other insured property (except crops and livestock) are completely covered on the basis of the last inventory value. Crop losses are paid for according to local variations, the character of insured client (collective or noncollective peasant), and kind of crop. Payments range from 60 rubles to 2,800 rubles for collective farms and from 50 to 2,200 rubles for noncollective farms or peasants. Payments for tobacco, cabbage, grapes, and fruit for sale and hops, hemp, and tea on collective farms may be as high as 10,000 rubles per hectare.

Payments for stock losses are the same throughout the Soviet Union, as shown below (in rubles):

	<i>Collective</i>	
	<i>Farms</i>	<i>Others</i>
Cattle, horses, mules, camels .....	300	250
Asses .....	100	80
Sheep and goats .....	60	50
Hogs .....	80	60
Reindeer .....	65	none

But the Republican Councils of Commissars for any Republic may raise or lower by as much as 20 percent the rates of payment for crops or animals, and may establish norms for the administrative divisions within their boundaries.

### *Special Premiums*

The autonomous Republics may do the same for counties, townships, and cities, using the average norms fixed for themselves as a base. Thus, the decree is elastic and may be adapted to local conditions.

Insurance premiums range from 30 kopecks to 6 rubles for collective farms and from 50 kopecks to 14.50 rubles for noncollective farms on each 100 rubles of insurance. The highest premiums apply to horses and mules. Crops are insured by locality, that is, all kinds of crops in a place are lumped together and insured against hail, storm, and fire at roots, and, by kind, against washing-out, freezing, heat, and flood. Special premiums, ranging from 2.50 to 10 rubles per 100 rubles of insurance for collective farms and from 4.50 to 15 rubles for noncollective farms, are charged on cotton and tobacco, varying according to locality, soil, and climate. Premiums on spring and fall plantings are calculated according to the sowing plan, on old perennial grasses according to the haying plan, and on orchards, berry patches, and other plantings according to the actual area. Acreage seeded in excess of the planned area is insured without cost.

The Republican Councils of Commissars may fix, within the average rates of premium payments listed, the rates for the autonomous Repub-

lic and the regions and Provinces within their territories. The autonomous Republics, regions, and Provinces may act similarly for their counties, townships, and cities. The Council of Commissars may reduce or cancel premiums for State livestock farms and noncollective farms in the Far East. Also, the Commissariat for Finance may lower, up to 30 percent, the average rate on buildings (depending on their qualities of fire-resistance) and up to 50 percent, in certain places, the premium on horses.

Premiums for compulsory insurance are calculated by the State Insurance Agency (Gosstrakh). Collections are made from rural clients by regional financial agents, who are the officers of the State Bank, and from collective farms by agents of State Insurance Agency. If the agents discover that insurable property had been concealed or omitted in inventory when the insurance lists were prepared, they can collect premiums for 2 years back. Property subject to insurance is listed once a year. Premiums are assessed accordingly. Property acquired by the insured client thereafter is listed in the following year. When insurance payments are made, unpaid premiums are deducted.

Premiums are paid as follows: By collective farms, 40 percent by September 15; 30 percent by November 1; 30 percent by December 1. All others pay 50 percent by September 15 and 50 percent by November 1, but the Finance Commissariat may fix other terms for payments in certain places. Failure to pay premiums promptly is subject to fines.

Of the total collected premium, 15 percent is set aside for fire pre-



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# Blessed

*Blessed be agriculture! If one does not have too much of it.*

—CHARLES DUDLEY WARNER

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vention and for livestock and 0.5 percent for publicity work and for rewards to the more efficient insurance workers. To encourage livestock raising, the premium on pedigreed cattle is cut 20 percent. Farms having fireproof buildings save 50 percent in premiums.

Collective farms and other clients must maintain their property and crops in complete order in accordance with fire-protection, agricultural, and veterinary regulations and practices, and must report promptly any fire and sickness of animals.

As agriculture develops and crop yields increase, insurance payments also rise—21 percent in the case of field crops, even more for crops like hops and hemp, and up to several hundred percent for a hectare of land planted in cotton. For tobacco the average now is 1,240 rubles, against 1,050 rubles in 1934. Similarly, the loss of a horse or cattle on a collective farm, formerly reimbursed to the extent of 150 rubles, now brings 300 rubles.

How effective is this insurance program? Superficially, one may say that it helps the peasantry. But one must not be too hasty about forming an opinion.

Soviet publications maintain that the insurance benefits the peasants and the Government, and estimate

the Government's share of the 1940 profits of the State Insurance Agency (plus the purchases of State bonds by that agency) at 1,181,000,000 rubles—a method of obtaining funds at a time when ready cash is needed to expand the Russian armament program.

Among the difficulties encountered is that accurate data for forecasting probabilities of loss from specific causes are in the hands of one organization. But in most parts of Russia these data are inadequate as bases for scientific forecasts. It is true that general improvement in Russian agricultural technique excludes many possibilities of crop failure, but complete removal of failure may be possible when only well-established and well-known crops are grown by the peasants. New crops and new methods always increase dangers of failure.

The collective peasant has to grow what he is ordered to grow. He must use the seeds that are given to him. He is told which sort of fertilizer he must apply, and how much. His methods are strictly supervised. The peasant is becoming more a farm employee than a traditional small-scale farmer. Under such conditions there is a tendency for a member of a collective farm to be less conscientious in his tasks.

Even at the present time many peasants join the collective farms to escape the payment of State taxes. Many of these peasants are working in nearby towns. They are only partially dependent on farming as a source of income. Considering all these factors we may say that human factors are the most important aspects in Russian crop-insurance policy.

# Food Technology and LAND USE PLANNING

By A. C. HOFFMAN. *Planning a better use of land resources can be done only within limits set by the existing state of science and technology. Nothing is predictable in this field, but, it is pointed out, progress in the technique of food manufacturing is a major factor in agriculture.*



THE TECHNOLOGY of food manufacturing seems at first thought to be somewhat remote from the everyday problems of agriculture and land use. In reality, this is far from the case. It is not an exaggeration to say that progress in the technique of food manufacturing has been one of the major factors in determining the type and localization of our agriculture.

Most of the basic processes for making edible the raw products of agriculture — grinding, churning, baking, curing, and so on—are as old as the recorded history of man. But the particular techniques by which these basic processes are carried on have been revolutionized within the last 75 years. New methods of milling have been developed, baking has become a commercial rather than a household function, and the preservation of food has been vastly improved by artificial refrigeration and the use of air-sealed containers. Moreover, to the older food processes have been added many new ones. Some of the foods we eat today were unknown

several generations ago—evaporated milk, processed cheese, prepared breakfast cereals, fresh frozen berries in midwinter. An obvious result of all this has been to provide a broader and more varied outlet for food products, and this in turn has had a direct effect on land use development.

An outstanding example is the milling industry. For thousands of years the method of making flour was to crush the grain between two stones by a revolving motion of the upper one. Separation of the flour from the bran was done with crude sieves. From time to time improvements in these methods were made, and the capacity of the mill unit was increased by the use of water and steam power. But until late in the nineteenth century the basic principles of milling were not greatly different from what they had been in the time of the Greeks.

Then came two major innovations. The first was the mill roll to replace grinding disks. With sufficient power, which was now available, the capacity of a roller mill is many times that of the old

disk-grinder unit. The mill roll reduced greatly the cost of grinding flour, spelled the doom of the small gristmill, and centralized and relocated the milling industry.

The second was a method for separating flour from bran by means of an air current rather than sieves. Before the introduction of the air-purifier about 1875, spring wheat had been in disrepute because it was not possible to make an acceptable flour from it. The new separation process, however, yielded as good a product from spring wheat as from winter wheat, and wheat production expanded rapidly in the spring-wheat States and Minneapolis became almost overnight the leading milling center of the country.

### *Refrigeration and the Livestock Industry*

It is a common error to suppose that the meat packing industry "just happened" to grow up in Chicago because several energetic men thought it a good place to start a business. The growth and localization of an industry are seldom as fortuitous as that.

The development of meat packing in the Middle West and the expanded market outlet thus afforded to Corn Belt livestock producers are directly traceable to the introduction of the refrigerator car during the 1870's. Before this, livestock had to be slaughtered close to the point of ultimate consumption if the meat was to be consumed in fresh form. Livestock slaughter therefore was carried on mainly by small butchering establishments near the big consumption centers. Western producers were at a disadvantage in gaining access to the eastern fresh

meat trade until it became possible to ship dressed meat under artificial refrigeration. Of further importance to the livestock industry was the discovery and application of new methods for using animal byproducts, which greatly increased the value of the animals produced. It is not too much to say that inventors and technicians whose names are virtually unknown today—Perkins and Carré (refrigeration); Mège Mouries and Schmidt (byproducts chemistry)—did far more for the livestock industry than some of its more popular heroes.

### *Technology in the Dairy Industry*

Modern technology also has been an important factor to the dairy farmer, although to many this will seem strange in view of the fact that men have known for thousands of years the basic processes of making butter and cheese. Here the contribution of the technologist has been to increase the number of palatable forms in which milk may be consumed and, recently, to open up a new field of nonfood uses for this product.

Artificial refrigeration probably has meant more to the dairy farmer than to the livestock producer. Without it, ice cream would not be commonplace in the American diet, nor could fresh milk be easily and safely supplied to urban consumers.

The general principles of pasteurization were given to us more than 70 years ago by the great French scientist, Louis Pasteur, but not until after 1900 were machines perfected for pasteurizing milk.

Also of great significance to the dairy industry was the discovery of

methods for making condensed and evaporated milk. Gail Borden laid the basis for the evaporated-milk industry by his discovery in 1856 of a method for condensing milk by evaporation in vacuo. Closely related in origin and history to this development was the manufacture of dry-milk powder. These processes today utilize some 5 percent of total milk production.

Of great commercial importance is the processed cheese industry, developed largely within the past 25 years. Processed cheese is made from natural cheese by methods of pasteurizing, blending, and packaging. It can hardly be called a new basic process, because men have known how to make cheese since Biblical times.

But it has undoubtedly helped to develop a wider market for cheese by increasing the number of its forms and by providing a convenient and merchandisable cheese package.

A new and interesting development whose potentialities cannot yet be assessed is the increasing use of casein for industrial purposes. Casein itself is an old and well-known dairy product that has long been used for making certain plastic materials. Now it is used as a base for paints. Chemists and technicians are trying to use it in making synthetic fibers. The commercial possibilities of these methods cannot be predicted, but it is at least significant that they are being used commercially in several European countries.

### *Prepared Breakfast Cereals*

A basically new group of food processes is used in manufacturing

prepared breakfast cereals. The first patent for making puffed cereals was issued to A. P. Anderson in 1902. At about the same time, H. D. Perky perfected and patented a method for making shredded cereal biscuit. Shortly before this, Gent and the Kelloggs developed techniques for steaming and rolling grains so as to make flaked cereals. The present leading cereal companies trace their origin and growth directly to the work of these and other technicians. To consumers they contributed new and palatable food forms, and to cereal producers some additional outlets for their products.

### *Preserving Perishable Fruits and Vegetables*

The fruit and vegetable industry as it exists today could not have developed without two things: Preservation in air-sealed containers and artificial refrigeration for fresh perishables.

Canning is now largely commercialized, and the production of commodities for canning is done mainly by specialized growers on a commercial basis rather than in family gardens. Unquestionably this process has increased the consumption of fruits and vegetables by city people, and probably also of most farm families.

Artificial refrigeration for fresh perishables has likewise been important to agriculture, both by increasing consumption and by changing the location of fruit and vegetable production. The production of many of our special crops is now located mainly around the periphery of the country (i. e., the Gulf and West Coast States), thousands of

miles from the point of ultimate consumption.

The latest innovation in food preservation is frozen packing. Its history runs back nearly 100 years, although it was not commercially important until after the World War. Many inventive men contributed to the development of the process. Enoch Pifer was granted a patent for freezing fish as early as 1861, but not much use of quick freezing was made outside the fish industry until Taylor, Zorotschenzeff, Birdseye, and others took hold of it during the 1920's. Today there are at least six patented processes for quick-freezing in commercial use.

Frozen packing probably will have less effect on the fruit and vegetable industry than some of the older preservative methods had

when they were introduced. To a considerable extent the expansion of quick freezing will represent a transition from canning or other preservative methods, although for some commodities it will undoubtedly result in some net increase in demand and probably also in a relocation of areas of production.

### *Planning and Technology*

We have discussed only the outstanding modern developments in food processing, and not by any means all of these. Agriculture has probably been affected even more by technological progress in other lines. Improvements in the methods of farming itself—in soil chemistry, plant and animal breeding, farm machinery, and so on—have had an equally great influence in shaping agricultural development.

The Government recently has undertaken a broad program of scientific research intended to increase the use of farm products. The possibilities cannot even be guessed. At the same time research is proceeding on an unprecedented scale in other public and private institutions, and thousands of individuals are at work on devices and experiments, some of which may have consequences for agriculture greater than any discussed here. The use of agricultural products for industrial purposes—for fuel oils, plastics, and building materials—may open a new horizon for agriculture.

And it also is possible that progress in the laboratory will lead to the displacement rather than the enlargement of the market outlet for farm products.

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## *Foundation*

*Upon agriculture, the foundations of individual happiness and national prosperity must rely for support. It embraces all that can render life supportable or desirable—all that render nations great and prosperous—all that give aliment to commerce and existences to manufactures—all that augment population and extend civilization.*

—GOVERNOR CLINTON

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# Planning for PEOPLE, NOT FOR PLANS

By ROBIN M. WILLIAMS. *Here is a warning and a challenge that should clarify some thinking about the scope and ends and methods of land use planning. It is a plea for greater understanding of the social, personal, factors involved, and a warning that "certainly it would be unfortunate if planning efforts merely gave the American rural people a more systematized dose of the same elements which have contributed to the present rural situation."*



THE TIME is not too far past when one could expect to find in many discussions of land use some far-reaching conclusions concerning the overpopulation of certain areas and the "necessity" for moving people out of such areas. Such suggestions, however, have been much less definite regarding ways and means for accomplishing this end or regarding the various social and economic implications of a program of this type.

We find planning committees refusing to designate as "unsuited to agriculture" certain poor land areas in the southern Appalachians in which a dense population is digging a subsistence living from rapidly eroding hillside farms.

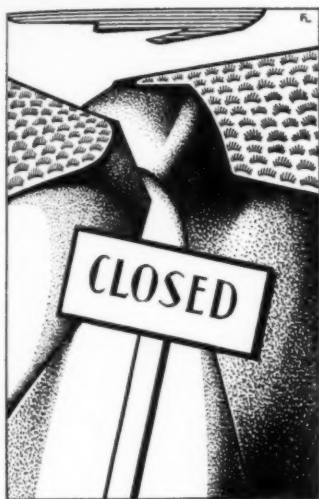
The population fails to flow from one area or occupation to another as freely as "purely economic" factors would indicate. We find large local and regional differences in material level of living and in per capita productive resources.

The attention that has been directed to these situations has come mostly through the spectacles of the concept of "economic maladjustment."

Perhaps there is a need for a broader analysis of why such things are so and of what they mean for planning efforts. We have been told that the "human factor" must be taken into account. To this some have replied, "Yes—but how, specifically: when, where, and in what terms?"

If we are to avoid action that may eventuate in important unanticipated, and perhaps undesired, consequences, there is real need to work systematically toward an answer to the question as to how social factors should be taken into account.

In the first place, the "human factor" enters into the picture in the explanation of an assumed differential return to agriculture as compared with other lines of production. There is considerable evidence to support the thesis that agriculture, in



many times and places, has received a smaller remuneration than would fall to its lot in a completely "frictionless" economy. If this be true, then it is necessary to explain why the shift to better economic alternatives does not take place.

If one could assume complete interchangeability of "units" of labor, one could always expect the same wage for a given grade of labor in all employments. Although there is widespread recognition of factors which contradict this assumption, there is always the temptation to leave to one side in specific cases the fact that economic action takes place within a social framework and is subject to certain social "ties."

In part because of these ties, the factors of production are not freely mobile. To some extent the influence of such elements is a factor in the presence of much population associated with scanty resources in one

sector of an economy in contrast to a relatively smaller population associated with ample resources in another, e. g., New England versus the South.

Further, were the factors of production perfectly mobile, population and resources would shift out of farming, for example, whenever returns in it fell below those to be obtained in alternative employments. Some such shifts do occur, but they are not large enough to remove all of the so-called "surplus" population. What would ordinarily be regarded as extremely bad economic conditions may not be sufficient to induce mobility—in fact, in some instances, may militate against it.

What are the factors, aside from factual lack of alternative opportunities, which account for conditions of such great importance for any general social policy or any general theory of planning?

Some of the more significant ones may be described briefly as follows: First, there is the complex of social values which we may subsume under the phrase, "emotional attachment to home, family, and locale." The ties of a strong family system are not, with safety, to be lightly dismissed as merely "nonrational." They are still prime factors in much of human behavior.

Second, on the same level are the ties of stable and satisfying group relationships in a familiar neighborhood circle. Our rural populations in general still manifest strong sentiments of group persistence. The local group is the most universal and permanent human organization beyond the basic family unit.

Third, social status considerations are more important than are usually

recognized in holding people to their accustomed social place. An Ozark subsistence farmer and a casual laborer in Detroit may have an equivalent income in material goods, whereas the social valuations to which they are subject in their daily life may be quite different. Men sometimes are known to forego considerable amounts of economic goods in favor of maintaining a status in a group.

Fourth, there is ignorance of alternative opportunities because of lack of education, isolation, and the complexity of our modern social order. These factors are "aided and abetted" by poverty.

Fifth, error in anticipating opportunities is a factor quite apart from ignorance.

Sixth, in some cases there are investments in fixed capital which are not quickly or easily liquidated.

Seventh, many of our "problem" rural populations lack the skills and knowledges necessary for entrance into other occupations, especially in other areas. They may also lack acquaintance with the individuals or groups through which employment elsewhere is mediated.

Eighth, mobility of farm population is retarded by many barriers and checks imposed by the social structure. The depression phenomenon of guards to turn migrants away from certain state boundaries is probably the most dramatic example. Perhaps less visible, but of great importance, are such things as ethnic or racial feelings, industrial labor policies, trade-union regulations, various types of residence requirements, and so on. The profound significance of these and related factors has become more and more apparent in recent years.

Ninth, migration is affected by the discount to which the future in an unknown (as over against a familiar) situation may be subject.

Closely related to this is, tenth, the relative fixity of social values, beliefs, and habits which grow out of some of the above elements as they operate in the rural setting.

Finally, it is easy to overstress the factor of conscious, rational weighing of alternatives as an element in mobility.

### *The Danger of Seeing Only One Goal*

We are all probably more clearly aware at present than ever before that land use and population policies are shot through with questions of social values. How is it to be decided what land use should prevail in a given area? When does an area have a population "surplus" on the land? It is clear that such questions cannot be answered except on the basis of some rather fundamental assumptions as to what is valuable, what way of life is desirable—and to whom.

As one reviews discussions of rural problems, it is striking to observe how often a certain material level of living is taken, implicitly or explicitly, as a central goal, in relation to which other values are ignored or minimized. Perhaps such an emphasis is inevitable under present circumstances. Yet there is a real possibility of such concentration upon one goal that action may have unforeseen and unintended consequences upon other values of importance.

For example, the story of history is that a relatively exclusive concern with the acquisition of goods has



been associated with considerable intragroup tension and a tendency toward the dissolution of the institutional rules which safeguard the regularized satisfaction of interests.

It has been indicated that the factors influencing economically adjustable mobility and the questions centering around goals for land use and population policy are two of the points at which social factors are relevant to planning. The crucial significance of some of the factors that are frequently taken for granted or dismissed without conscious analysis may be illustrated by singling out for further discussion one of the points previously mentioned, that is, sentiments of local attachment.

Suppose the question is posed: What if our rural population had no ties to locality other than the calculation of pecuniary advantage? There would then be, seemingly, an ideal situation for planning those changes necessary to secure the best possible economic adjustment.

As a matter of fact, there may be some who long for so simple a situation in which the proper economic pressure and counterweights could be relied upon to adjust population precisely to the changing structure of prices and costs and resultant comparative advantages.

There thus may easily develop a tendency (usually implicit) to regard "localism," "provincialism," "ethnocentrism" merely as troublesome barriers to needed adjustments. Undoubtedly such sentiments sometimes serve to block advantageous changes.

But there is another side of the shield. Is it not a fact that these local identifications are universally found in society? And does not this

imply that they perform functions which are bound up with social groups as going concerns? The hypothesis may be ventured that repeated shocks to a people's sense of local attachment and group identification would go a long way toward dissolving one important basis of social stability.

Urban wage earners who have been recently uprooted from a rural culture exhibit revealing illustrations of some of the behaviors characteristically accompanying this process. Some of the increasingly important groups of unattached farm laborers also have something to teach us on this point. The tenuous character of group organization based exclusively upon the pecuniary calculus is sufficiently evident in contemporary society.

Attempts to appraise the comparative merits of policies of "improvement in place" versus "relocations" are facilitated by the inclusion of these considerations. Here, perhaps, is a point at which "negative planning" may prove of considerable value.

### *Limits of Public Planning*

It should be clear that this is not a "plea for a return to economic primitiveness." But it should be equally clear that realistic planning must take cognizance of the functions now served by social elements which may appear to surface examination merely as barriers or anachronisms. Realistic policy must also be aware of the limits within which public planning must operate at any given time. There is a place, and an increasingly important one, for "blueprints" and for the most rig-

orously rational planning of which our experts are capable.

The thesis here is simply that it is not possible to rest content with the consideration of one set of variables without the likelihood of eventually frustrating our own ends. We speak of "social experiments." In point of fact, the social action process is irreversible. When an experiment in social relations is undertaken, a new situation emerges and it is never possible to wipe out the residue (however small) of new relationships, with their supporting sentiments, in order to return to the original state of affairs.

Too rapid a succession of changes in the roles which people are expected to play and the values for which they are expected to strive means that the stable and routinized behaviors which are the bedrock of group life do not have time to develop and to become supported by group authority. A more or less calculable social environment is as much a necessity for social adaptation as the physical environment is for biological adaptation.

And the social changes and the shifting of the group ties of individuals which are mediated through impersonal cultural forces have quite different implications from those mediated through a definite social organization which can be located, named, and read about in the newspapers.

### *Optimism and the Risk of Discontent*

One further point may serve to illustrate the responsibilities of present-day planning. Crisis periods require action. Rapid changes in socio-economic conditions in such

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*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*

—ZOROASTER

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periods tend to the use of rapidly changing action programs, requiring active public participation and support. In such a process, there is a continual pressure to "get results," to "put things over," which encourages optimistic claims for the benefits to be derived from a given policy.

If expectations are alternately aroused and then frustrated a situation may arise in which disillusionment and discontent are united—a singularly inauspicious marriage.

To give the individual comprehension of his social world, a status in a group, purposes for action and cultural design for living—these are some of the more important functions of the integrated local group. The forces of our predepression social system had been shattering this mode of organization over a long period.

Certainly it would be unfortunate if planning efforts merely gave the American rural people a more systematized dose of the same elements which have contributed to the present rural situation.

If land-use planning can be enough more than merely land-use planning to contribute toward building new centers of integration through real local participation within the rural community, its contribution may mean much more than we now realize.



## Books

THE POLITICAL ECONOMY OF WAR. *A. C. Pigou.* Macmillan and Co., Ltd. London. 169 pages. 1940.

WARTIME CONTROL OF PRICES. *Charles O. Hardy.* The Brookings Institution. Washington. 216 pages. 1940.

By JAMES P. CAVIN

SAD NECESSITY forces us to ponder again the economics of war. Terms like "galloping inflation," price control, bulk-line costs, priorities, commandeering, and rationing have reappeared. These two brief volumes serve well to orient the social scientist toward some of the economic issues raised by war or total defense.

Professor Pigou's book is a revision of his 1921 volume, omitting the closing chapters on the aftermath of the war. It traces the anatomy and physiology of a war economy, and the original edition aimed, among other things, to shed light on the economic problems of a world at peace. It is essentially a general treatise, not a handbook for the administrators of a war economy; but it sheds light on their problems as well, and its republication is most welcome.

The 14 brief chapters may be divided into 3 groups. The first 6 deal broadly with the economic nature of the war effort, including the economic causes of war, resources available for war, the real costs involved and the role of Government commandeering. Chapters 7 to 9 deal with the interrelated problems of taxation, government, and bank

credit. The last five chapters are devoted to certain special problems under the headings of price control, rationing of consumers, priorities, bounties, and control of imports and foreign investments.

On the whole, Pigou's treatment is suggestive rather than analytical. The most elaborate analysis appears in the chapters on taxes, borrowing, and credit. These chapters give attention not only to the immediate efficacy of financial measures but to their economic significance in the post-war period. Our own defense effort finds some cleavage between those who look only to immediate results and those who, while equally desirous of maximizing the defense effort, seek simultaneously to minimize the maladjustments of a post-armament period. The significance of this latter problem is easily appreciated by those who have had to struggle with the problems of agricultural adjustment in the United States during the past two decades.

THE PROFESSIONAL ECONOMIST will regret that Professor Pigou did not in his original treatment undertake a full-length job comparable to his great studies of the economics of welfare, industrial fluc-

tuations, and unemployment. Such a treatment by one so able and discerning would have been a treasure today. On the other hand, the brevity and simplicity of his volume should induce a wide reading by all shades of social scientists and laymen, and help them to focus rapidly on the problems ahead.

A portion of the epilogue, which takes the place of the earlier chapters on the aftermath, deserves quotation. "We are at a start of a journey whose end we cannot foresee. Yet once again the young and gallant, our children and our friends, go down into the pit that others have dugged for them. Yet once again men of greater age, we that, if it might be, would so gladly give for theirs our withered lives, we cumber the earth in vain. We wait and watch and—those who can—we pray. As an economist I have not the power, nor, as a man, the heart, to strain through a night so black to a dawn I shall not see."

Faced by so dark an outlook, we can only more admire the effort made by Professor Pigou in reissuing his book.

DR. HARDY'S VOLUME deals more intensively with one aspect of a war economy, price control; and is directly related to American problems and experience. A brief question-and-answer introduction deals sketchily with the basic economic aspects of mobilization for war, and summarizes the general findings with respect to price inflation and control. To this introduction, the first five chapters of Pigou's book form an excellent supplement. The main text is divided into two parts, of six chapters each. The first embraces price control by fiscal and

credit policies on the one hand, and by certain nonmonetary controls on the other; the second reviews World War price control with special reference to basic materials, food, fuels, and rents.

With respect to fiscal and monetary policy, the principal aim is taken to be the avoidance of price inflation, which distorts the income structure and results in irrational distribution of the war burden.

What is to be the guide in such a policy? Stability of the cost-of-living index. This implies that "the proper standard of both credit policy and fiscal policy \* \* \* is not the size of the Government deficit or the total volume of Government debt, or the absolute amount of credit outstanding, but the movement of the price level."

How can this stability be attained? By prevention of bank-credit expansion beyond the point needed to induce the employment of resources now idle. This means that the funds obtained by taxation and borrowing "shall be drawn from the existing income stream, not created to swell that stream, beyond the extent to which expansion of money income is balanced by an expanding output of goods and services."

What is to prevent such a control of bank credit? Primarily "the conflict between the maintenance of credit standards and the convenience of the Treasury."

According to the introduction, "the full costs of the war in terms of the material factors involved must be borne during the struggle." Broadly speaking, this is true, but it ignores the problem of choosing methods of war finance that will prove least hampering to recovery and full employment in the post-war

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# Problem

*As long as men and resources are made idle through technology, the real problem is to utilize this unused capacity to expand the national output of goods and services or in cultural advancement.*

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## —TECHNOLOGY ON THE FARM

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period. Here again Pigou's chapters on taxes, loans, and bank credit should be read in supplement.

PARALLELING MONETARY MEASURES, and likewise aiming to forestall advances in the general price level, are a number of so-called indirect controls designed to increase the general supply of goods and services and to curtail demands considered nonessential.

These controls include encouragement of exports; export of gold and silver; exchange controls (to raise the value of the dollar in neutral exchange markets, thereby curtailing exports and increasing imports); stimulation of domestic production (including discouragement of production which utilizes men and materials needed for the war effort); removal of restriction on output; and restrictions on speculation and consumer hoarding.

"Restriction of agricultural output under the auspices of the Department of Agriculture" is looked upon as one of the most conspicuous ex-

amples of restraint on production, and it is recommended that laws authorizing such restriction be suspended for the duration of the war. Although such a recommendation has general theoretical merit, it obviously ignores the present status of total agricultural output and the different positions of the several crops, particularly those whose export outlets have been curtailed.

The rest of part I, three chapters, considers the direct control of the prices of individual commodities. With respect to commodities purchased for Government use, emphasis is placed on avoiding the World War system of cost plus a fixed percentage of cost and the single price system based on bulk-line cost analysis. "Cost plus a fixed sum, or cost plus an amount which rises as cost falls" is deemed more likely to induce economy and efficiency; while individual producer prices based on individual cost are recommended as a means of avoiding excessive profits by low-cost producers. The problem of price fixing for industrial goods entering into civilian use is given only brief treatment, though it receives further attention in part II.

THE PRINCIPAL OBSERVATION with respect to the prices of consumer goods and services is that "justification for price control will arise, if at all, from temporary local shortages of particular commodities which are very urgently wanted by large numbers of people, and would not be supplied quickly in much greater quantities if prices were allowed to rise." This problem is likewise given fuller consideration in part II.

Some suggestions are made with respect to wage control which "is logically a phase of price control," but the author concludes that "the administration of labor is too large and diversified a task to be made subsidiary to the administration of price control, and wages can probably be handled better by a labor authority than a price authority, though provision should be made so as to insure coordination of policy between them."

A brief chapter is devoted to the machinery of price control. It is suggested that such control should be united under a single head, be civilian rather than military, be assigned to a special wartime agency rather than to existing agencies, and be coordinated with fiscal and banking policy. A full chapter is given to appraisal of the price-ceiling plan advocated by Bernard Baruch. The general conclusion is that "a price ceiling does nothing to facilitate the necessary readjustment of productive activity to wartime needs; on the contrary, its tendency would be to maintain under war conditions the structure of production that existed under peacetime conditions."

Part II contains a considerable amount of valuable historical material on wartime control of prices and numerous suggestions for making future price control more effective.

A NUMBER OF the broader conclusions, however, are worth summarizing. It is concluded that the Government's wartime policy with respect to direct price controls was basically sound and reasonably effective. It is pointed out, however, that controls were frequently applied too late and that responsibility was fre-

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# Prosperity

*Agriculture, manufactures, commerce, and navigation, the four pillars of our prosperity, are then most thriving when left most free to individual enterprise.*

—THOMAS JEFFERSON

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quently disbursed among a large number of uncoordinated agencies. The author thinks the range of price control by the Food Administration was unnecessarily broad, whereas that over prices paid for commodities used by the Government was too narrow.

It is further believed that in too many cases the Government relied on the cost of a few high-cost producers as a guide to a proper price level for its purchases and that there was too much reliance upon the excess-profits tax to offset the resultant high prices received by low-cost producers. Lastly, there was "almost a complete failure to recognize the bearing of fiscal policy upon the price problem, and there was no co-operation between Treasury and Federal Reserve authorities and the agencies concerned with the direct control of prices."

Professor Hardy's timely book is most welcome, though it must be regarded as a general map for price policy rather than a system of definitive precepts. Its clarity and wide coverage give one the impression of

having preempted the field, though it is actually but a beginning, albeit a good one. It also gives the impression that the problems of price control are relatively simple. Actually they are exceedingly complex, requiring the most careful statistical

research—commodity by commodity and industry by industry—as well as a most thorough probing of the norms of price policy. Despite its greater brevity, Pigou's book conveys more definitely a feeling for the great difficulties involved.

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LAND ECONOMICS. *Richard T. Ely and George S. Wehrwein.* The Macmillan Company. New York. 512 pages. 1940.

By V. WEBSTER JOHNSON

SHORTLY AFTER 1920 Dr. Ely and Dr. Wehrwein, and a few others, began to organize their thinking about the use of land, its tenure, land programs and policies, and other relationships of people to land. Through teaching, research, and work with graduate students, the authors were among the pioneers in developing and organizing the subject matter and content of land economics.

From 1922 to 1931 several works were published by Drs. Ely and Wehrwein under such titles as *Characteristics and Classification of Land*, *Costs and Income in Land Utilization*, and *Outlines of Land Economics*. The present volume is an outgrowth of these publications, but the subject matter has been extensively revised, enlarged, and rearranged.

The book was prepared as a text for a basic course in land economics. The numerous publications and articles cited in the footnotes throughout the book and the bibliography at the end, if studied in connection with the text, should be most helpful in supplementing and enlarging upon its contents. The book is written in a direct and lucid style, con-

tains a wealth of information, and is rich in fundamental relationships essential to an understanding of land economics, but these may not always be apparent to the casual reader.

Land Economics is defined as " \* \* \* the science which deals with the utilization of the earth's surface, or space, as conditioned by property and other institutions and which includes the use of natural forces and productive powers above or below that space over which the owner has property rights."

IT INVOLVES an economic synthesis of many physical, social, and institutional factors. For instance, physical geography deals in part with the description of the land pattern, while commercial geography attempts to explain this pattern, but land economics carries the analysis further by dealing with the "relations of man to man arising out of the relations of man to natural resources" and thus involves an appraisal of land resources, traditional practices and customs that effect land use, tenure relationships, and land incomes under different conditions of ownership and management.

So considered, land economics covers all of those relationships between men that arise from or are conditioned by their mutual relationships with natural resources. The authors thus do not limit the scope of their treatment solely or even to a considerable degree to a consideration of the price and income relationship between men in their use and ownership of land.

The first five chapters deal with those relationships of people to land and with those of its physical and economic characteristics that are common to all natural resources regardless of their use. Beginning with chapter I, which revolves largely about the Malthusian law of population in its historical and present setting, the authors touch upon the inter-relationship of population problems and land-use adjustments and set the stage for considering the various characteristics of land as a consumption good or as a factor of production. Chapter II is a discussion of important physical factors that condition land use either directly, or as modified by man, or through its effects on the behavior of man. Of the physical factors, "space" is singled out for consideration in chapter III because of its great economic significance.

"WHILE SPACE and extension are of the greatest economic significance in cities and suburban areas, they are not without importance in other resources. Plants and trees need room for both roots and leaves and only a definite number can be supported on an acre." This chapter is particularly informative and fundamental to a consideration of the subject matter of the chapter on

"Economics of Land Utilization" and to those chapters dealing with major types of land uses. One of the major characteristics of land is its spatial significance, which is physically and economically considered throughout the book.

One of the most basic and instructive chapters in the book is Chapter IV, "Land as Property."

"In addition to the physical factors which condition land utilization there are various group habits in the relations between men which affect their behavior in the use of natural resources. These widespread habits, customs, and arrangements in production, distribution, and consumption of goods are economic institutions. Inheritance, government, taxation, credit, competition, and monopoly are examples of such institutions, but the most important institution which affects the use and income of land is property."

Land is held under many forms of tenure representing various "bundles of rights." The distribution of these rights—under different forms of tenancy, private and public ownership, mortgagor and mortgagee relations—affects the relationship of people to land. The prevailing concept of property in land is also modified by use of the police power, the power of taxation and eminent domain.

CHAPTER V, "The Economics of Land Utilization," analyzes the factors determining rent, value of land, competition of land uses, and the costs of land utilization. Some may say that the economic analysis in this chapter has been oversimplified and leaves one short of a well-rounded presentation, but the authors intentionally took this course in order to stress what they felt were



its essential features. Economic rent is considered as the residual above the costs of labor and capital, and returns to management. Under certain conditions, capital and labor are applied to land until the final increment of income from them equals their cost. The return to management is considered as a cost for management and also as a residuum. This duality of treatment may lead to some confusion. It would appear that any surplus above an alternative use for both land and management is a joint residual, the allocation of which in a theoretical treatment is necessarily rather arbitrary and which in practice is dependent largely upon bargaining power.

Although economic rent is considered as a residual, it is also considered as a cost to the individual and thus affects the margins for any given land use. Thus, after so defining rent, the discussions involving the influence of values and alternative uses on land utilization appear to treat inadequately the shift that occurs in the treatment of rent in this connection as price determining.

Chapters 6 through 13 deal with major types of land uses or resources: Agricultural lands, forest lands, arid lands, recreational lands, water resources, mineral and power resources, and urbanization and urban lands. In general, the approach in each of these chapters is through discussion of the spatial significance of each type of land use, a consideration of "property rights" in land use, primarily through tenure arrangements and relationships, a discussion of costs and income relationships, and a somewhat limited appraisal of conservation and development programs and policies, including public

control of land use through ownership and various other directional measures.

In these chapters, the authors follow an institutional approach to land economics. Each chapter is essentially a broad historical and descriptive discussion of land tenure and land utilization, with particular emphasis on the institutional factors conditioning land use and occupancy.

DURING THE PERIOD of exploitation and settlement of our land, economic and institutional adjustments in land use were of the character manifest by an expanding people in a land of abundant natural resources. Individualism was the dominant force of change. Under more recent conditions, the need for the conservation and development of our natural resources, and the development of sound land-use policies and programs has become a task calling for increased group action and control. Dr. Ely and Dr. Wehrwein are in agreement with this trend of thought and, to achieve this end most effectively, they believe that it is necessary to develop "a social philosophy of conservation."

SOME READERS may feel the need of additional economic analysis of the factors affecting land use and income, a little more intensive treatment of the economics of conservation, a chapter on taxation and land use, and more reference to factors for appraising the place of various control or regulatory measures under different land-use conditions and for various social needs. Nevertheless, the book fills an important need and should be of great value to teachers and students of land economics.

# *For your attention*

**SOCIAL SECURITY IN RELATION TO AGRICULTURE AND RURAL AREAS. A STATEMENT BEFORE THE SENATE CIVIL LIBERTIES COMMITTEE. A. J. Altmeyer. 28 pages. Washington, D. C., Social Security Board, Washington.**

**AGRICULTURAL WORKERS UNDER STATE LABOR LAWS. PRESENTED BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON EDUCATION AND LABOR, U. S. Senate. Clara M. Beyer. 13 pages. Washington. U. S. Department of Labor, Division of Labor Standards.**

In the first of these statements, the chairman of the Social Security Board discusses ways in which he believes the freedom of the people of this country from the specter of insecurity could be promoted through the extension of social-security legislation. He explains the exclusion of "agricultural labor" in the Social Security Act of 1935 as due primarily to the administrative difficulties involved because of the seasonal character of the industry, the high degree of mobility of the workers, and the large number of employers in widely scattered locations.

In 1939, amendments broadened the original exclusion of agricultural labor so that an additional 600,000 to 700,000 workers were excluded from the protection of the insurance system, many of them engaged in the packing of fruits and vegetables, in cotton gins, or in cooperative grain elevators. The Social Security Board, according to Mr. Altmeyer, believes that these 1939 amendments should be repealed and the agricultural-labor exemption be modified. The Board recommends also that, with a reasonable time allowed before the effective date, the agricultural-labor exception be eliminated en-

tirely with respect to the Federal old-age and survivors' insurance system.

The Farm Placement Service, with 1,600 fully equipped and staffed public employment offices, stands ready for any service designed to bring men and jobs together. The Social Security Board believes that its success in coping with problems of unemployment indicates that an enlarged program would go far toward correcting conditions causing large-scale migration.

Mr. Altmeyer discusses, in relation to rural areas, public assistance to the needy aged, blind, and dependent children as well as rural health services and health needs, and briefly the migratory agricultural worker.

The second report summarizes the status of agricultural workers under State labor laws—workmen's compensation, wage collection and wage payment, wage and hour, child labor, labor camps, safety and health, regulation of labor contractors and private employment agents, unemployment compensation, and so forth.

**THE DECLINING ENROLLMENT PROBLEM IN THE ELEMENTARY SCHOOLS OF BROOKINGS COUNTY, BEADLE COUNTY, KINGSBURY COUNTY. THE EMERGING RURAL COMMUNITIES OF BROOKINGS COUNTY. W. F. Kumlien, Clifford Holm, Vera Petheram, and C. Scandrette. Department of Rural Sociology, Agricultural Experiment Station, South Dakota State College of Agriculture and Mechanic Arts, Brookings, S. D. Rural Sociological Pamphlets Nos. 3, 4, 5, and 6. 1940.**

The first three, dealing, respectively, with the problem in the counties named, contain suggestions for both temporary amelioration, and for permanent reorganization if the present trend of declining enrollment continues.

These include: (1) Closing schools where enrollment drops below a predetermined minimum and providing necessary transportation to a centrally located school; or providing tuition and transportation to a rural or town school in an adjacent district. (2) Transporting farm children to independent school districts as is now done with high-school tuition students. This would result in from 7 to 10 centralized schools for each county, would combine town and country on a natural community basis, and give farm children more educational opportunities than is possible in a one-room country school of four to five pupils. (3) Reorganizing the rural school system on a county-wide dis-

trict basis. The county school board would then have authority to discontinue small schools and establish larger schools at strategic points. (4) Consolidating several school districts, taking care to include a large enough area to insure a sufficient number of students and to provide a large enough unit of support.

Pamphlet No. 6, *The Emerging Rural Communities of Brookings County*, is designed to be of assistance to land-use planning groups in that county, by locating the communities and neighborhoods which have a common trade and service center. For the benefit of other communities, the study outlines in detail the methods found successful in determining these relationships in Brookings County.

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# LETTERS

## How Many Farmers Do We Require?

SIR:

I WAS MUCH INTERESTED in the article entitled "How Many Farmers Do We Require?" in the September number of *LAND POLICY REVIEW*.

I think that the general thoughts brought out require much more attention than has been given to them in the past. It is noted that the question is raised as to "what steps or devices can be used to develop new ways of agricultural life—that will at the same time give to the people following such ways of life an amount of satisfaction and a degree of contentment equal to that enjoyed by other classes of the population?"

Having come in contact with a substantial number of people on farms and also in cities, ranging from almost the poorest to those with moderate to high incomes, I have noted that there seems to be discontent and a lack of satisfaction on the part of many individuals which apparently cannot be attributed to their occupation or economic status entirely. I wonder if any scientific studies have been made of those things in life that do give satisfaction and contentment and their relationship to income, etc. If so, I should be glad to be referred to them. In an economy which does not seem to be expanding as rapidly as in the past there must be some satisfac-

tory way of life both for farmers and for city dwellers that does not require continuous and rapid expansion of income.

—R. L. GILLET,

FEDERAL-STATE AGRICULTURAL STATISTICAL SERVICE, ALBANY, N. Y.

SIR:

MR. WELLS' ARTICLE posits two possible limits for our agricultural population: As few as 25,000,000 farm people on 5,500,000 farms, or as many as 45,000,000 people on 9,500,000 farms. The smaller number would be sufficient to provide all the food and fiber required in the United States; the larger number could support themselves, after a fashion, on the land. Mr. Wells concludes by remarking that no pronouncement can be made as to which of these possible states of our agricultural population is to be preferred. In his opinion, either population goal seems equally valid as "there is no 'correct' answer."

On the contrary, it seems to me that there can be no question as to which is the correct answer, for even the objectives which Mr. Wells claims could be attained through the presence of 45,000,000 people on the land, appear in fact, unattainable under the circumstances he assumes. Mr. Wells says that so large a farm population may be desirable on two grounds: (1) To

relieve unemployment; (2) "to maintain national morals, health, and population, and stabilize the national culture."

To take up the second of these points: It is very difficult to believe that in a population where the average annual income per family is about \$550, adequate provision of sanitary, hospital, and educational facilities would be made.

The national culture might be stabilized, but it would be stabilized on a disgracefully low level. The status of health and education in the poorer district of the South is a sufficient example of the standards that will be maintained on family incomes of \$10 a week. If our population has to be maintained by condemning more than one-third of our people to a share-cropper existence, I, for one, would just as soon see it decline. But, in any case, there need be no decline, as there are other and better ways of keeping our population at its present level, which there is not space to discuss here.

Mr. Wells' other reason for considering a farm population of 45,000,000 possibly desirable is that it would relieve the unemployment problem. This solution for unemployment is defeatist; it is equivalent to admitting that we cannot improve our economic circumstances, but must reconcile ourselves to the presence of great masses of unemployed, or as a hardly preferable alternative, to putting these unemployed millions on the land where they will eke out an existence on the level of southern or central European peasants. Such a program neglects wholly the experience of the last few years and especially of the last few months.

Among the benefits attributable to the defense program is the demonstration that if we are sufficiently bold we can successfully employ our hitherto unemployed resources of workers and productive facilities. Let us hope that when the defense emergency has passed that the energies now being devoted to the output of armaments will be turned to the manufacture of instruments of peace. If we do this we shall not be under the necessity of condemning 45,000,000 people to living in substandard dwellings and subsistence on substandard diets, but we can plan for a farm population large enough to supply all the agricultural commodities we need and which will have sufficient income per family to enjoy a truly American standard of living. Such a population will almost undoubtedly be

smaller than the present number living on farms. In this connection, it may be noted that Mr. Chester Davis has recently estimated that "perhaps 5 million men not now listed as unemployed \* \* \* could be released from the production of cotton, tobacco, and wheat, or from sheer subsistence farming, without any loss whatsoever so far as agricultural industry of the country is concerned." (Release No. PR 218, NDAC, November 1, 1940.)

It is recognized that no purely agricultural program is in itself sufficient to bring about a state of affairs that will reduce farm population to optimum levels, but that is no reason why persons interested in the welfare of farmers should adopt a defeatist position. They should, in conjunction with representatives of the other classes of our population, work for a program of full employment along lines the efficiency of which has already been demonstrated. If this end is attained, there will be no need to make plans for maintaining an overlarge agricultural population at bare subsistence levels.

—THEODORE NORMAN,  
SURPLUS MARKETING ADMINISTRATION.

SIR:

THE ARTICLE gives me much pleasure in that it indicates someone is giving consideration to the question of how many farms and farm people are needed in America. Yet, it is disappointing that the wonderful opportunity offered by the estimates was not used to take a positive position on the question of whether the Nation should have more or fewer farms and farm people.

This Nation today is facing a challenge which may be unequaled in its history. Coming from the dictators, it is a challenge to democracy itself. We are attempting to meet that challenge with total defense. We cannot have total defense for democracy without making better use of some of the primary tools of the forces we are building defense against—efficiency in the use of the Nation's resources—its factors of production.

People comprise one of the major resources of America. If 25,000,000 farm people can supply all the farm products for which there is a prospective market, and this figure seems generously high, then the Nation is wasting one-fourth of this resource. There are far too many unsatisfied needs in this country for the Nation to take a passive attitude toward the waste

of its most important national resource. It is fully as important in my mind to prevent the waste of the Nation's human resources as it is to prevent the waste of its soil resources, its forests, its minerals, or any other of its resources. If we need a program to conserve the soil resources of this country, then we need just as urgently a program to conserve its human resources—a program to make it possible for the people of this Nation to contribute their utmost to national welfare.

Actually, I believe large numbers of farm people recognize that they are not needed in agriculture and desire to shift out of farming. A major deterrent to a successful shift of this sort today is the lack of proper training of these farm people. The public-school system in rural areas scarcely has recognized the fact that a large part of the rural youth of the past found their lives could be spent best in occupations other than farming. This Nation needs an active public program to train rural youth in nonfarming vocations. It also needs a program to help those rural youth make the adjustments which allow the use of that special training. If World War II and the defense program teach us how to deal more effectively with unemployment, then the benefits of such programs need not be limited to that gained from their use in an emergency situation.

Naturally, I do not claim these suggestions, if applied, would bring all the adjustments which seem necessary to me; yet they should be a very important step in the right direction.

I make these comments hoping they may stimulate you to give even more serious attention to how to determine at least something closer to the "correct" answer to the question you pose than we have today. I do not think the interests of the Nation will allow the individual's choice of "amount of satisfaction" and desire for "a degree of contentment" to be the major determinants of that "correct" answer.

—K. J. NICHOLSON,  
BAE, DIVISION OF STATE  
AND LOCAL PLANNING.

O. E. BAKER HAS SUGGESTED that half the farmers in the United States in 1929 could have produced the entire commercial farm output of the country of that year, under favorable price conditions. In view of the rapid concentration in farm production which has taken place in the last 10 years,

it is probably conservative to say that 3,500,000 of the Nation's farms in 1940 were physically capable of producing an adequate quantity of foods and fibers for domestic consumption, together with sufficient additional to meet prospective export demand. This is 2,000,000 less farms than the minimum required number of farms suggested in [Mr. Wells'] article.

Any number of farms "required" over and above the minimum number, wherever it is put, is required for some other purpose than that of meeting our national requirements in a way which will make for the most efficient utilization of human labor, and yield the highest per capita material standard of living to the farm population.

The principal incentive to depart from this objective lies in the dilemma that alternative employment opportunities for the agricultural population in excess of the minimum number required are at present sharply limited.

In this fact mainly lies whatever popular support may exist for measures such as rural rehabilitation, scaling of AAA payments in favor of small operations, homestead tax exemptions, tenant purchase loans, and other measures designed to bolster the position of the small farmer. Measures to help the small-farm operator appear to be desirable under existing conditions, even though such measures foster inefficient utilization of labor and a rural counterpart of job sharing.

But taking the longer view, I think we are unduly pessimistic if we feel compelled to plan for agriculture as a refuge for part, at least, of a surplus, otherwise unemployed, population. The other arguments in favor of a large farm population which you mention have dubious validity. The question, "How many farms do we require?," therefore, might be restated, "For how long and under what conditions is it desirable for us to have more farms than we require?"

—ARTHUR W. STUART,  
AGRICULTURAL ECONOMIST.

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## Migrants of Defense

SIR:

PURCHASES OF LAND for national defense projects are creating a pressing new problem of resettlement and migration. Munitions plants, proving grounds, and Army camps are being planned for many areas,

In every case tens or hundreds of farmers must sell out or get out. Where will they go?

If there is no successful plan for resettlement, they will spread out in desperate attempts to find new farms or employment. Winter is no time for such searching. Crops have been harvested, feed stored, livestock bought, and winter seedings and fallow prepared. But the people are moving. They must have help now.

A national farm sales and renting agency could be a big aid. It would serve as a free listing agency for owners with land to rent or sell and as a source of information for tenants desiring farms. It would list farm lands for sale, including Federal Land Bank and all other Federal farm lands subject to sale. Its primary purpose would be to assist families dispossessed and disrupted by defense projects, but it would also aid any farmers and landowners who cared to come to it. For farm operators it would be a counterpart of the Government employment agencies for labor.

By appraising the management problems of the various farms, it also could assist farmers and tenants in making wise selections and necessary adjustments. It could help the prospective farmer get in touch with the proper Government agencies if assistance is needed, and thus save time and money.

The need for such an organization is evident. Defense projects are being organized in several States. In Missouri there are

four planned or projected. On one of them, 130 farm families will need to find new homes and farms. On another, an estimated 250 families are involved. Many cases like these make the resulting resettlement problem a serious one especially because no machinery exists to bring families and opportunities together over a wide enough area to be successful.

Obviously, a thoroughgoing survey of the listed farms and farmers would be helpful in rendering any guidance that is undertaken.

In most cases the people have 30 days to pack and leave. Past experience would indicate that only the lucky farmers would have new farms within this short period. Some further assistance is necessary. Expanding industries should offer a haven to some of these people, for in many cases the farmers will be skilled laborers whose employment would be a boon to many industries. For example, construction companies have been unable to find carpenters and farmers are often skilled in carpentry.

The trouble lies in bringing these employers and potential employees together. Coordinating the work of the sales and renting agency with the National Reemployment Administration would help solve this problem. If both these agencies fail in immediate reemployment of the evictees, camps for temporary residence might be considered in extreme cases.

—FRANK T. HADY,  
BAE, MILWAUKEE, WISC.

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## *In Magazines*

THE FARM PROBLEM has a definite cause. It must have a definite cure \* \* \* the mind can proceed in only four directions to find the answer \* \* \* in one of these four directions, therefore, the true answer must lie.

So say Charles Custer Pikert and Ralph Berland Baerman in an article called "Is This The After-War Program?" (COUNTRY GENTLEMAN, November). The four categories

are listed as: (1) Efforts to get parity between industry and agriculture; (2) plans to store surpluses to get them off the market; (3) curtailment of supply as typified by the AAA; and (4) increasing demand through chemurgy, stamp plans, and export.

The authors find their "true answer" in increased exports. But two main difficulties, the incapacity of foreign nations to buy our crop

surpluses without sending us manufactured goods in payment and the unwillingness of foreign nations to buy American crops at a price level higher than the world price level, must be overcome.

The solution: (1) Permit the entry, in quotas up to the extent of our current crop surpluses, of selected manufactures. The writers estimate that for each \$5 worth of goods sold to the average American farmer, our manufacturers will have a market for \$4 extra by letting in \$1 worth of foreign goods. (2) Levy a duty on the imports, equal to the difference between American and world-crop price levels, to be used as a "bonus" which foreign nations can apply toward the purchase of our farm surpluses. An "International Surplus Exchange" would supervise these operations.

THAT INCREASED DOMESTIC CONSUMPTION will answer the question of what to do with our surpluses—agricultural and industrial—is the idea of an article by Milo Perkins (*HARPERS*, December), called "Exports and Appeasement."

To the not unfamiliar statistics of 80,000,000 persons living on an average monthly cash income of \$69 per family and 20,000,000 spending an average of 5 cents a meal for food, is added this estimate: The national food bill would be increased nearly 2 billion if families making less than \$100 a month ate as much as those making more than \$100. Yearly farm exports during the 1930's averaged only \$800,000,000.

The Food Stamp Plan, the Cotton Stamp Plan, the School Lunch Program, plans for distributing cotton for mattresses and milk at a

penny a glass are described as but a start toward building up the health and well-being of our own people. Besides giving the underprivileged a chance to use our surpluses, such plans are an alternative to what Mr. Perkins terms "economic appeasement" in the event of a Hitler victory—that is, making loans to governments abroad so that they can "buy" our industrial and agricultural surpluses.

"But full employment is the real answer to all of our problems" \* \* \* "government and industry should tackle the unemployment problem together before we become too dependent upon armaments as a substitute," says the head of the Surplus Marketing Administration.

RICHARD HELLMAN'S "The Farmers Try Group Medicine" (*HARPER'S*, December) traces the development of the FSA rural public health machinery since the autumn of 1936. At that time it was found that bad health was indirectly responsible for half of the loan failures of the Resettlement Administration.

Despite bitter attack on the plan by opponents of group medical care, today 80,000 farm families in 634 counties in 32 States, a total of 400,000 persons, are participating. Procedures are worked out in memoranda between county and State medical societies and the FSA, and between the FSA and the farmers. The farmers pay a fixed annual amount into a pooled fund; the physicians provide all necessary medical services. Both have "free choice"; that is, physicians are free to join the plan, and patients are free to call upon any cooperating physician.



# Knowledge

*So long as our agriculture shall continue to be an exporting interest, these considerations, as second only to the science of production itself, will demand the careful attention and study of our farmers, and in any well-digested system of agricultural education, its connection with manufactures and the mechanic arts, with commerce, with the commercial policy of our own and other countries, and with the domestic and foreign markets, should hold a prominent place. A thorough and continued education in these collateral, but highly necessary branches of knowledge to the farmer, will prove extensively useful to the American citizen beyond their application to the production and sale of the fruits of his labor. They will qualify him the more safely and intelligently to discharge the duties of a freeman; and, if called by his fellow citizens to do so, the more beneficially to serve his State and country in legislative and other public trusts.*

—SILAS WRIGHT



